

IN THE CLAIMS

This listing of claims replaces all prior versions, and listings, in this application.

1. (currently amended) A flour, which is derived from the seed of a plant expressing in said seed (i) a gene coding for transglutaminase enzyme and (ii) one or more genes coding for wheat storage proteins, wherein said one or more wheat storage proteins ~~comprise the preserved C-terminal motif LKVAKAQQLAAQLPAMCR (SEQ ID NO: 11)~~ and are selected from the group consisting of 1Bx7, 1By9, 1Dx5, 1Dy10, 1Ax2, 1Bx17, 1Ax1, 1Dy12, and HMW2; wherein said one or more genes are ~~optionally~~ modified by mutagenesis to eliminate allergenic amino acid sequences for food allergies to gluten; wherein said flour has lower allergenicity than wheat flour; and wherein said plant is a cereal or a leguminosa provided that said plant is not wheat.
2. (currently amended) A [[The]] flour, which is derived from the seed of a plant expressing in said seed (i) a gene coding for transglutaminase enzyme and (ii) one or more genes coding for wheat storage proteins, wherein said one or more wheat storage proteins are selected from the group consisting of 1Bx7, 1By9, 1Dx5, 1Dy10, 1Ax2, 1Bx17, 1Ax1, 1Dy12, and HMW2; wherein said flour has lower allergenicity than wheat flour; wherein said plant is a cereal or a leguminosa provided that said plant is not wheat; and of Claim 1 wherein said one or more wheat storage proteins are modified by mutagenesis to lower allergenicity of amino acid sequences for food allergies to gluten and the sequences to be modified are selected from the group consisting of PFPQPQLPY, PQPQLPYPQ, PYPQPQLPY, LQLQPFPQPQLPY, QQGYYPSTPQQSG, QQGYYPST, PFSQQQQQ, QSEQSQQPFQPQ, and QXPQQPQQF (SEQ ID NOS: 36-44, respectively).
3. (previously presented) The flour of Claim 2 wherein the mutagenesis is directed to amino acid in position 6 for PFPQPQLPY, amino acid in position 4 for PQPQLPYPQ, amino acid in position 6 for PYPQPQLPY, amino acid in position 10 for LQLQPFPQPQLPY, amino acids in positions 5 and 8 for QQGYYPSTPQQSG, amino

acids in positions 5 and 8 for QQGYYPST, amino acids in positions 4, 5 and 7 for PFSQQQQQ, amino acids in positions 4 and 6 for QSEQSQQPFQPQ, or amino acid in position 4 for QXPQQPQQF (SEQ ID NOS: 36-44, respectively).

4. (previously presented) The flour of Claim 1 wherein said plant is rice, soybean or corn.

5. (withdrawn-currently amended) A transgenic plant expressing in seed (i) a gene coding for transglutaminase enzyme and (ii) one or more genes coding for wheat storage proteins, wherein said one or more wheat storage proteins ~~comprise the preserved C-terminal motif LKVAKAQQLAAQLPAMCR (SEQ ID NO: 11) and are~~ selected from the group consisting of 1Bx7, 1By9, 1Dx5, 1Dy10, 1Ax2, 1Bx17, 1Ax1, 1Dy12, and HMW2; wherein said one or more genes are ~~optionally~~ modified by mutagenesis to eliminate allergenic amino acid sequences for food allergies to gluten; wherein flour made from said seed has lower allergenicity than wheat flour; and wherein said plant is a cereal or a leguminosa provided that said plant is not wheat.

6. (withdrawn) The plant of Claim 5 wherein said one or more wheat storage proteins are modified by mutagenesis to lower allergenicity of amino acid sequences for food allergies to gluten and the sequences to be modified are selected from the group consisting of PFPQPQLPY, PQPQLPYPQ, PYPQPQLPY, LQLQPFPQPQLPY, QQGYYPSTPQQSG, QQGYYPST, PFSQQQQQ, QSEQSQQPFQPQ, and QXPQQPQQF (SEQ ID NOS: 36-44, respectively).

7. (withdrawn) The plant of Claim 6 wherein the mutagenesis is directed to amino acid in position 6 for PFPQPQLPY, amino acid in position 4 for PQPQLPYPQ, amino acid in position 6 for PYPQPQLPY, amino acid in position 10 for LQLQPFPQPQLPY, amino acids in positions 5 and 8 for QQGYYPSTPQQSG, amino acids in positions 5 and 8 for QQGYYPST, amino acids in positions 4, 5 and 7 for PFSQQQQQ, or amino acids in

positions 4 and 6 for QSEQSQQPFQPQ, or amino acid in position 4 for QXPQQPQQF (SEQ ID NOS: 36-44, respectively).

8. (withdrawn) The plant of Claim 5 wherein said plant is rice, soybean or corn.

9. (withdrawn-currently amended) A seed produced by the plant of Claim 5 wherein said seed expresses (i) a gene coding for transglutaminase enzyme and (ii) one or more genes coding for wheat storage proteins; wherein said one or more wheat storage proteins ~~comprise the preserved C-terminal motif of LKVAKAQQLAAQLPAMCR (SEQ ID NO: 11)~~ and are selected from the group consisting of 1Bx7, 1By9, 1Dx5, 1Dy10, 1Ax2, 1Bx17, 1Ax1, 1Dy12, and HMW2; wherein said one or more genes are optionally modified by mutagenesis to eliminate allergenic amino acid sequences for food allergies to gluten; wherein flour made from said seed has lower allergenicity than wheat flour; and wherein said plant is a cereal or a leguminosa provided that said plant is not wheat.

10. (withdrawn-currently amended) A process for the production of flour of Claim 1, the process comprising milling seeds which express (i) a gene coding for transglutaminase enzyme and (ii) one or more genes coding for wheat storage proteins; wherein said one or more wheat storage proteins ~~comprise the preserved C-terminal motif of LKVAKAQQLAAQLPAMCR (SEQ ID NO: 11)~~ and are selected from the group consisting of 1Bx7, 1By9, 1Dx5, 1Dy10, 1Ax2, 1Bx17, 1Ax1, 1Dy12, and HMW2; wherein said one or more genes are modified by mutagenesis to eliminate allergenic amino acid sequences for food allergies to gluten; and wherein said seed is produced by a plant which is a cereal or a leguminosa provided that said plant is not wheat.

11. (withdrawn) A process for producing a baked product, the process comprising: admixing the flour as defined in Claim 1 with a suitable amount of yeast and water to obtain dough, allowing said dough to rise, and baking the leavened dough.

12. (withdrawn) A baked product obtained by the process of Claim 11.

13. (previously presented) The flour of Claim 2 wherein said plant is rice, soybean or corn.

14. (previously presented) The flour of Claim 3 wherein said plant is rice, soybean or corn.

15. (withdrawn) The process according to Claim 10 wherein said plant is rice, soybean or corn.

16. (withdrawn) The process according to Claim 11 wherein said plant is rice, soybean or corn.

17. (withdrawn) The process according to Claim 15 wherein said one or more wheat storage proteins are modified by mutagenesis to lower allergenicity of amino acid sequences for food allergies to gluten and the sequences to be modified are selected from the group consisting of PFPQPQLPY, PQPQLPYYPQ, PYPQPQLPY, LQLQPFPQPQLPY, QQGYYPSTSPQQSG, QQGYYPST, PFSQQQQQ, QSEQSQQPFQPQ, and QXPQQPQQF (SEQ ID NOS: 36-44, respectively).

18. (withdrawn) The process according to Claim 17 wherein the mutagenesis is directed to amino acid in position 6 for PFPQPQLPY, amino acid in position 4 for PQPQLPYYPQ, amino acid in position 6 for PYPQPQLPY, amino acid in position 10 for LQLQPFPQPQLPY, amino acids in positions 5 and 8 for QQGYYPSTSPQQSG, amino acids in positions 5 and 8 for QQGYYPST, amino acids in positions 4, 5 and 7 for PFSQQQQQ, amino acids in positions 4 and 6 for QSEQSQQPFQPQ, or amino acid in position 4 for QXPQQPQQF (SEQ ID NOS: 36-44, respectively).

19. (withdrawn) The process according to Claim 16 wherein said one or more wheat storage proteins are modified by mutagenesis to lower allergenicity of amino acid

sequences for food allergies to gluten and the sequences to be modified are selected from the group consisting of PFPQPQLPY, PQPQLPYYPQ, PYPQPQLPY, LQLQPFPQPQLPY, QQGYYPSTSPQQSG, QQGYYPST, PFSQQQQQ, QSEQSQQPFQPQ, and QXPQQPQQF (SEQ ID NOS: 36-44, respectively).

20. (withdrawn) The process according to Claim 19 wherein the mutagenesis is directed to amino acid in position 6 for PFPQPQLPY, amino acid in position 4 for PQPQLPYYPQ, amino acid in position 6 for PYPQPQLPY, amino acid in position 10 for LQLQPFPQPQLPY, amino acids in positions 5 and 8 for QQGYYPSTSPQQSG, amino acids in positions 5 and 8 for QQGYYPST, amino acids in positions 4, 5 and 7 for PFSQQQQQ, amino acids in positions 4 and 6 for QSEQSQQPFQPQ, or amino acid in position 4 for QXPQQPQQF (SEQ ID NOS: 36-44, respectively).